REMARKS

Claims 1 to 3, 5 to 13, 15 to 17 and 23 continue to be in the case.

Claims 4, 14, and 19 to 22 are being cancelled.

New claims 24 to 26 are being introduced. Claims 24 to 26 are based on Figs. 1 to 3.

DETAILED ACTION

6. Claims 1-4, 8-9, 12-14 and 19-22 stand rejected under 35 U.S.C. 102(b) as being anticipated by Arita et al. (5,504,502).

Arita et al. discloses a computer input pointing device comprising a casing(13, 19), an upper movable dome shaped steering element(10), a steering element's movement detector(14, 14', 18), a bearing(13) attached to the casing, spring repositioning elements((column 7, lines 20-58; figures 13,15B and 16) and a switch (15) which all function as claimed.

Applicant respectfully traverses.

The sphere defined by the movements of the Arita et al. reference is convex disposed when viewed from above or from the outside of the device. In clear contrast, the sphere defined by the movements of the present invention is concave disposed when viewed from above or from the outside of the device.

This basic difference between the present invention and the reference Arita et al. has many subsidiary consequences for the respective devices. For example, as

5. (currently amended) The input pointing device according to claim 1, wherein ~~a location of a~~ the connection of the steering element to the casing (2) has ball bearings (21e).

6. (currently amended) The input pointing device according to claim 1, wherein ~~a location of a~~ the connection of the steering element to the casing (2) is a ball bearing (21b).

7. (currently amended) A computer input pointing device

which comprises [[its]] a casing, an upper movable steering element, steering element's movement detector, and the system transmitting information about such movement to the computer, wherein the steering element (3) is connected to the casing (2) by a connection, with the possibility of two dimensional spherical movement, while the center of the spherical surface (4) defined by the movement of the steering element (3) in relation to the ~~bearing~~ casing (2) is situated above the steering element (3),

wherein said ~~bearing~~ connection has a form of perpendicular, mutually connected flat rolling or sliding bearings (2If, 21g), of which one (2If) is connected to the steering element (3) and the other (21g) to the casing of the input pointing device (1e).

8. (currently amended) The input pointing device according to claim 1, wherein the steering element (3) rests freely on the ~~said bearing~~ casing (2).

9. (currently amended) The input pointing device according to claim 1, wherein the steering element (3) has a possibility of relocation only over the spherical surface defined by the movement of the steering element (3) in relation to the ~~said bearing~~ connection.

10. (currently amended) The input pointing device according to claim 9, wherein the ~~said bearing~~ connection is provided with a hole (22), whereas the steering element (3) comprises the upper part (31) and protective lower part (33); the latter prevents the steering element (3) from falling out of the hole (22), both of which are linked by means of a connecting element (32) leading through the hole (22) , wherein a lower side of the upper part (31) has a convex surface and wherein an upper side of the protective lower part (33) has a concave surface.

11. (currently amended) A computer input pointing device

which comprises [[its]] a casing, an upper movable steering element, steering element's movement detector, and the system transmitting information about such movement to the computer, wherein the steering element (3) is connected to the casing (2) by a connection, with the possibility of two dimensional spherical movement,

while the center of the spherical surface (4) defined by the movement of the steering element (3) in relation to the ~~bearing~~ casing is situated above the steering element (3).

wherein the steering element (3) has a possibility of relocation only over the spherical surface defined by the movement of the steering element (3) in relation to the ~~said bearing~~ casing (2),

wherein the steering element (3) has a hollow space inside (35) and a hole (36) in the lower surface, whereas the casing (2) has a protective upper part (24) which prevents the steering element (3) from being disconnected and which is linked with the casing (2) by means of a connecting element (23) leading through the hole (36).

12. (previously presented) The input pointing device according to claim 9, wherein the steering element (3) is provided with a dome part (34) for user's hand.

13. (previously presented) The input pointing device according to claim 1, wherein the upper surface of the steering element (3) has an ergonomic shape adjusted to the shape of user's hand.

14. (canceled)

15. (previously presented) The input pointing device according to claim 1, wherein the steering element (3) movement detector has a form of micro-camera (5a).

16. (previously presented) The input pointing device according to claim 1, wherein the steering element (3) movement detector is provided with a light emitter (5b), whose ray, having been reflected from the steering element, is read by an optical sensor (5c).

17. (previously presented) The input pointing device according to claim 15, wherein the steering element (3) is covered with a network of graphic perforations.

18. (previously presented) The input pointing device according to claim 1, wherein the steering element (3) movement detector has a form of a dome (5d) and a system of perpendicular rollers (5e).

19. (canceled)

20. (canceled)

21. (canceled)

22. (canceled)

23. (currently amended) A computer input pointing device

which comprises [[its]] a casing, an upper movable steering element, steering element's movement detector, and the system transmitting information about such movement to the computer, wherein the steering element (3) is connected to the casing (2) by a connection, with the possibility of two dimensional spherical movement, while the center of the spherical surface (4) defined by the movement of the steering element (3) in relation to the ~~bearing~~ casing is situated above the steering element (3),

wherein the computer input pointing device comprises supporting elements to maintain the steering element's (3) position after relocation, with a provision that the connecting element (23,32) is built in a telescope fashion and the supporting elements comprise an electromagnet (7a) shortening the length of the connecting element as well as that of an adversely acting spring (7b), both of which are situated in the segments of the connecting element (23, 32).

24. (new) A computer input pointing device comprising

a casing (2) having on a side a ring of a sphere with a central opening with a diameter of the opening; wherein a radius of curvature of the ring of the sphere is disposed outside of the casing and wherein an outside surface is formed concave;

a steering element (3) having an outer spherical cap with a cap diameter larger than the diameter of the opening, wherein the outer spherical cap is disposed outside of the ring of the sphere and wherein a radius of curvature of the outer spherical cap is outside of the casing (2) and wherein an inside surface of the outer spherical cap is formed convex,

having an inner spherical cap with a cap diameter larger than the diameter of the opening, wherein the inner spherical cap is disposed inside of the ring of the sphere and wherein a radius of curvature of the inner spherical cap is substantially outside of the casing (2) and wherein an outside surface of the inner spherical cap is formed concave, and

having a centeredly disposed stub element solidly connecting the inner side of the outer spherical cap disposed toward the ring of the sphere to the outer side of the inner spherical cap disposed toward the ring of the sphere ;

a movement detector for detecting movement of the steering element (3); and

a transmission system connected to the movement detector for transferring movement information to a computer.

25. (new) The input pointing device according to claim 24, wherein a diameter of the outer spherical cap is larger than a diameter of the inner sphereical cap;

wherein the radius of curvature of the inner spherical cap is substantially equal to the radius of curvature of the outer spherical cap.

26. (new) The input pointing device according to claim 25,

wherein a radius of curvature of the ring of a sphere is substantially equal to the radius of curvature of the outer spherical cap.

shown in Figs 7A and 7B of the Arita et al. reference, a special recess is formed in the convex construction for being able to operate the device with a finger. In clear contrast, the upper part of the steering element (3) of the present application is already formed for being engaged by an operating finger based on the concave construction applied as shown in Fig. 1 of the present application.

8. Claims 5-6 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Arita et al in view of Leung(6,388,655B1).

Arita et al. is discussed above. Leung is cited to show that the concept of utilizing ball bearing(236, Figs 19, 22) for facilitating movement of a moveable steering element(182) of an input pointing device(180) is old. Thus, it would have been obvious to one of ordinary skill in the art to modify the system of Arita et al. with the noted teaching of Leung such that to provide ball bearings between the moveable steering element(10) and the bearing(13) because it would facilitate the movement between the two elements almost without any friction and secondly because both references are related to moveable cursor input device.

Applicant respectfully disagrees.

The reference Leung agrees with the reference Arita et al. to provide relative motion along a convex sphere, whereas the claims of the present invention require that the motion occurs along a concavely disposed sphere. Applicant urges that were two references agree not to do what applicant claims, that such references are unsuitable to be combined in showing obviousness of applicant's invention.

9. Claim 10 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Arita et al. in view of Miyoshi(6,667,733B2).

Arita et al. is discussed above. Miyoshi is cited to show that the concept of utilizing a moveable steering element(30) having an upper part(31), a protective lower part(32) and a connecting part(32) for connecting the upper and the lower parts together is old. Thus, it would have been obvious to one of ordinary skill in the art to modify the system of Arita et al. with the above noted teachings of Miyoshi such that the moveable steering element(slider 10) includes an upper and lower parts connected together so that to prevent the slider from falling through the hole (12a, 13a) because both references are related to mechanical structure of a slider input device.

Applicant respectfully disagrees.

The reference Arita et al. is respectfully traversed as above.

The reference Miyoshi teaches a pointing device, where a sliding mechanism is used. However, the reference Miyoshi does not teach a pointing device, where movement occurs along a sphere in a concave configuration as seen from above and from the outside and as claimed by the applicant.

10. Claims 16-17 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Arita et al. in view of Low et al.(2004/0046741 A1)

Arita et al. is discussed above. Low et al is cited to show that the concept of utilizing a light emitter and an optical sensor or a micro-camera as a movement detector for a moveable peripheral input device is old(see paragraphs[0024-0025]). Therefor, it would have been obvious to one of ordinary skill in the art modify the system of Arita et al. with the above noted teachings of Low et al such that to provide an optical detection system for detecting movement of the slider(10) as opposed to the magnetic detection system(14, 14', 18) because both are alternative equivalent to each other and further because both references are related to movement detection of a moveable peripheral input device.

Applicant respectfully disagrees. The reference Low et al. teaches a mouse having an optically based scrolling feature. The peripheral input device includes a housing and an optical touch pad carried by the housing. The optical touch pad is configured to translate finger motion into movements on the display screen.

In contrast to this teaching of the reference Low et al. claim 16 requires that there is alight emitter, that the light from the light emitter be reflected from the steering element and be read by an optical sensor. No touch pad is required as taught by the reference Low et al.

Claim 17 requires that the steering element be covered with a network of graphic perforations. As the reference Low et al. does not teach a steering element according to claim 1of the present application, the reference Low et al. also fails to teach a steering element with a network of graphic perforations.

Therefore, claim 16 and 17 are deemed to patentably define the invention over the references Arita et al. and Low et al.

Reconsideration of all outstanding rejections is respectfully requested.

All claims as presently submitted are deemed to be in form for allowance and an early notice of allowance is earnestly solicited.

Respectfully submitted,

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